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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
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STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

May 21, 2008
Honolulu, Hawaii

Request for Time Extension for
Variable Water Use Permit for System Loss (WUP No. 851)
For Waiahole Ditch Irrigation System, Oahu,
TMKs: (1) 9-2-001:001 and 9-4-003:001

APPLICANT:

Mr. Alfredo Lee, Executive Director
Agribusiness Development Corporation
235 South Beretania Street, Room 205
Honolulu, Hawaii 96813

LANDOWNER:

Same

SUMMARY OF REQUEST:

The applicant is requesting a time extension to Waiahole Decision and Order III mandating the reduction of the system loss allocation from 2.03 million gallons per day (mgd) to 1.45 mgd from June 2008 to June 2011 for the Waiahole Ditch Irrigation System, Oahu. Additionally, modify ADC's current water use permit by reducing its current allocation by 0.03 mgd to account for improvements to the ditch to reduce system losses as specified in the Commission's July 13, 2006 Decision and Order III.

LOCATION: Exhibits 1a and 1b.

BACKGROUND:

Waiahole Ditch Irrigation System

The Waiahole Ditch Irrigation System (WDIS) was started by the Waiahole Water Company in 1913 to develop both surface water and high-level groundwater sources in eastern (windward) Oahu for sugarcane irrigation in the western (leeward) side of the island. The Waiahole Ditch

Irrigation System consisted primarily of tunnels from windward sources to central Oahu. Twenty-five tunnels connect the windward sources to the trans-Koolau Tunnel, followed by 13 transmission tunnels in central Oahu. From central Oahu, water was conveyed in concrete-lined ditches and across gulches by inverted siphons to Reservoir 155.

In 1970, the Waiahole Water Company changed its name to Waiahole Irrigation Company and later became a wholly-owned subsidiary of Amfac/JMB Hawaii, which also owned Oahu Sugar Company. In 1994, Oahu Sugar Company, which used the bulk of WDIS water, closed its plantation operations. In 1999, the State of Hawaii purchased WDIS, and the Hawaii Department of Agriculture's (HDOA) Agribusiness Development Corporation (ADC) now manages the Waiahole Water System. ADC is a State agency governed by an appointed board. Since ADC purchased the WDIS from Amfac in 1999, ADC has made a number of improvements to the ditch system to increase the efficiency of water delivery and to reduce system losses.

Commission's July 13, 2006, Decision and Order III.

In the July 13, 2006, Findings of Fact, Conclusions of Law, and Decision and Order (D&O III) in the second remand proceedings "In the Matter of Water Use Permit Applications, Petitions for Interim Instream Flow Standard Amendments, and Petitions for Water Reservations for the Waiahole Ditch Combined Contested Case Hearing (CCH-OA95-1)," the Commission concluded that the water use permits met the seven conditions under HRS 174C-49(a) and as determined by the Court in *Waiahole I* and *Waiahole II*. The seven conditions for a water use permit are:

1. Can be accommodated with the available water source.
2. Will not interfere with any existing legal use of water.
3. Is consistent with public interest.
4. Is consistent with state and county general plans and land use designations.
5. Is consistent with county land use plans and policies.
6. Will not interfere with the department of Hawaiian home lands as provided in section 221 of the Hawaiian Homes Commission Act.
7. Is a reasonable-beneficial use as defined in section 174C-3.

The Waiahole D&O III addressed the issues of system losses in the following summary:

Commission's July 13, 2006, Decision and Order III.
ADC's Permit for System Losses

The Commission found that ADC had taken practicable mitigation measures, including repairs to the ditch system after taking into consideration costs, existing technology, and logistics in light of the overall water planning process and met the conditions for the issuance of a water use permit for system losses under HRS section 1174C-49(a) of the State Water Code.

In Waiahole D&O III, ADC received a variable water use permit for 2.03 million gallons per day (mgd; WUP No. 851) in system loss that would be decreased to 1.45 mgd no later than June 2008, or earlier if the reservoir linings have been completed. In addition, when the remaining

1,000 feet of unlined ditch are enclosed in pipes, the permit for system loss will be further reduced by 0.03 mgd to 1.42 mgd. The 1.42 mgd applies when the windward adjustment gate is open and some windward tunnel waters are being diverted leeward. When the adjustment gate is closed and all windward tunnel waters are being diverted into the windward streams, the water use permit will be for the Adit 8 reading (where the tunnel emerges into the ditch) minus metered water use.

Summary of system loss:

Reservoirs 155 and 225	0.58 mgd
1,000 feet of unlined ditch	0.03 mgd
Windward adjustment gate	<u>1.42</u> mgd
Total	2.03 mgd

Reservoirs 155 and 225

Reservoir 155 is approximately 3.13 acres, holds about 15 million gallons. Reservoir 225 is approximately 2.54 acres, holds about 10 million gallons. ADC has obtained ditch easements for both reservoirs which are both old, unlined, earthen reservoirs subject to seepage losses and have diminished storage capacity from years of siltation.

Reservoirs 155 and 225 need the following maintenance and improvements:

- Removal of sediment and debris build up.
- High-density polyethylene (HDPE) lining material to eliminate seepage losses.
- Repair and re-grouting of the damaged cut stones lining the embankments of both reservoirs.
- Installation of debris screens and sediment traps at the reservoir inlets to prevent debris from entering and silting the reservoirs.
- Ramps for equipment access into the reservoirs.

HDOA, acting as a local sponsor, initiated a project with the U.S. Army Corps of Engineers (USACE) to address seepages in Reservoirs 155 and 225. The USACE's 2002 report to ADC recommended that ADC line Reservoirs 155 and 225 and replace the unlined portions of the ditch system with pipes. Lining the reservoirs with high-density polyethylene (HDPE), a durable, impermeable material, would be highly effective because it would seal off the wetted area with an impermeable barrier that would eliminate seepage.

The USACE and ADC have achieved the following milestones for the reservoir lining project:

- Secured sufficient federal funding to line two reservoirs.
- Finished surveying two reservoirs.
- Completed engineering design work.
- Conducted preliminary cost estimates.

The USACE is the lead agency for the project and is currently:

- Working on a value engineering study which is a formal process to reduce construction costs and will be completed in June 2008.
- Preparing a Categorical Exclusion memo that would exempt the project from an environmental impact statement, or preparing an environmental assessment. This process will take approximately six months.
- Executing a Project Cooperation Agreement with its local sponsor, HDOA, which is expected to be signed in mid-2009.

The reservoir lining project is a 65%-35% cost share project between the USACE and HDOA. Since the project was originally conceived in 2001, updated project cost estimates have escalated from \$2-3 million to about \$6 million. State matching funds have been reserved for the USACE lining project. However, HDOA must secure additional state Capital Improvement Project (CIP) funding for its share of the funding match by July 1, 2009, and remit the funds to the USACE before USACE can advertise for bids.

The original timeline for the reservoir lining project was that the USACE'S design contract would be awarded and completed by the middle of 2005, and the joint construction project would be completed sometime between December 2007 and June 2008. USACE and HDOA's current timeline is to solicit bids in mid to late 2009, award the construction contract in 2010, and complete the reservoir lining project by June 2011.

1,000 feet of unlined ditch

ADC is no longer using an unlined ditch (approximately 1,000 feet long) and is using a lined ditch to supply water to the Garst pond thereby reducing system loss by 0.03 mgd.

ANALYSIS:

The USACE and ADC have achieved the following milestones for the reservoir lining project: secured sufficient federal funding to line two reservoirs, obtained ditch easements for both reservoirs, finished surveying both reservoirs, completed engineering design work, and prepared preliminary cost estimates. However, due to the increased project costs, the necessity for HDOA to secure additional state funds for its portion of the cost sharing, and the USACE's contracting requirements, the USACE and ADC were unable to complete the reservoir lining project by the June 2008 deadline mandated by Waiahole D&O III.

ADC is no longer using an unlined ditch (approximately 1,000 feet long) and is using a lined ditch to supply water to the Garst pond thereby reducing system loss by 0.03 mgd. Therefore, staff is recommending that the Commission issue a new water use permit to recognize the reduction in system loss resulting from this repair.

Therefore, given the performance and good faith efforts by ADC to reduce system loss in accordance with the D&O III, staff believes that a time extension to complete the lining of reservoirs 155 and 225 is justified. As such, a modification of ADC's current water use permit is necessary.

RECOMMENDATION:

That the Commission:

- 1) Cancel ADC's Water Use Permit No. 851 for 2.03 mgd for system loss, and
- 2) Approve the issuance of a variable water use permit (WUP No. 852) for 2.00 million gallons per day for system loss. WUP No. 852 will be modified and decreased to 1.42 mgd no later than June 2010, or earlier if the reservoir linings are completed. ADC will report on the progress of the reservoir lining projects according to schedules and details to be determined by the Commission staff.

WUP No. 852 and subsequent modification to 1.42 mgd applies when the windward adjustment gate is open and some windward water is being diverted leeward. When the adjustment gate is closed and all windward tunnel waters are being diverted into windward streams, the water use permit will be for the Adit 8 reading (where the tunnel emerges into the ditch) minus metered water use.

WUP No. 852 is also subject to the standard conditions of a water use permit and any other applicable terms and conditions in the Commission's July 13, 2006 Decision and Order not directly addressed in this action.

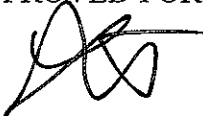
Respectfully submitted,



KEN C. KAWAHARA, P.E.
Deputy Director

- Exhibits:
1. Location Maps 1a and 1b.
 2. Photos of Reservoir 155 and 225
 3. Standard Water Use Permit Conditions

APPROVED FOR SUBMITTAL



LAURA H. THIELEN
Chairperson

STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)
2. The right to use ground water is a shared use right.
3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
 - a. Can be accommodated with the available water source;
 - b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
 - c. Will not interfere with any existing legal use of water;
 - d. Is consistent with the public interest;
 - e. Is consistent with State and County general plans and land use designations;
 - f. Is consistent with County land use plans and policies; and
 - g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).
4. The ground-water use here must not interfere with surface or other ground-water rights or reservations.
5. The ground-water use here must not interfere with interim or permanent instream flow standards. If it does, then:
 - a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
 - b. The interim or permanent instream flow standard, as applicable, must be amended.
6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.
7. The water use permit application and submittal, as amended, approved by the Commission at its May 21, 2008 meeting are incorporated into this permit by reference.
8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.
9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
 - a. protect the water sources (quantity or quality);
 - b. meet other legal obligations including other correlative rights;
 - c. insure adequate conservation measures;
 - d. require efficiency of water uses;
 - e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
 - f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
 - g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).
11. This permit shall be subject to the Commission's periodic review of the Waiahole Ditch Irrigation System Aquifer Systems' sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the Aquifer Systems in the Waiahole Ditch Irrigation System, or relevant modified aquifer(s), is reduced.
12. A permit may be transferred, in whole or in part, from the permittee to another, if:
 - a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
 - b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer, which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.
13. The use(s) authorized by law and by this permit do not constitute ownership rights.
14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances that will affect the permittee's water use.
15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.
16. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the Ground Water Management Areas of the Waiahole Ditch Irrigation System.
17. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.
18. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.
19. Special conditions in the attached cover transmittal letter are incorporated herein by reference.